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L16: Entry 3 of 18

File: USPT

Feb 17, 2004

DOCUMENT-IDENTIFIER: US 6694470 B1

TITLE: Retransmission procedure and apparatus for handshaking protocol

Abstract Text (1):

Apparatus and method for minimizing a retransmission of signals and messages when an errored message is received during an xDSL negotiation procedure of a communication session. A receiving section monitors received data related to a Frame Check Sequence of an xDSL negotiation procedure. When the receiving section determines that an errored message is received, a retransmission request device transmits a retransmission request message. The retransmission request message indicates which correct message was lastly received. However, if a predetermined number of errored messages occur, the communication session is terminated.

Brief Summary Text (17):

Accordingly, an object of the present invention is to develop a retransmission mechanism that retransmits an errored message that occurs during handshaking or initializing procedure. In a disclosed embodiment, the procedure is implemented as an extension to an xDSL handshaking and selection procedure (such as, but not limited to, for example, the above-noted ITU-T Recommendations G.994.1, V.8, and V.8 bis). According to the instant invention, if a communication device receives an errored message during a session, the communication device indicates the last correctly received message and requests a retransmission of the errored message. In addition, an optional feature of the present invention enables the retransmission request messages to suggest the length of a message frame to be used by a communication device in order to help reduce the occurrence of frames with errors.

Brief Summary Text (18):

According to an object of the invention, a communication device is disclosed that minimizes a retransmission of signals and messages when an errored message is received during a communication handshaking procedure. The communication device has a receiving section that receives signals from an initiating communication device, in order to detect when an errored message is received, and a retransmission request device that transmits, to the initiating communication device, a retransmission request message indicating that the errored message was received. The receiving section includes an error detecting device that operates to detect errored messages.

Brief Summary Text (20):

According to another object of the current invention, a method is disclosed for minimizing a retransmission of signals and messages when an errored message is received during a handshaking procedure of a communication session. According to this method, the handshaking procedure is monitored to determine whether a received signal contains an errored message. When the monitored handshake procedure determines that an errored message was received, a retransmission request message is transmitted to request retransmission of a portion of the handshaking procedure.

Brief Summary Text (25):

Another object of the invention concerns a method for minimizing a retransmission of signals and messages when an errored message is received during a handshaking

procedure of a communication session, by monitoring received data related to a predetermined frame structure of a high speed handshaking procedure (such as, for example, data related to a Frame Check Sequence of an xDSL handshaking procedure), and transmitting a retransmission request message when the monitored predetermined frame structure indicates that the received data includes an errored message. In addition, the communication session can be terminated when a predetermined number of errored messages, such as, for example, three errored messages, are transmitted.

Brief Summary Text (26):

A still further object of the invention pertains to a method for minimizing a retransmission of signals and messages when an errored message is received during an xDSL negotiation procedure of a communication session. Received data related to a Frame Check Sequence is monitored. If the Frame Check Sequence indicates that the received data includes an errored message, a retransmission request message is transmitted. This message includes information identifying which correct message was lastly received. However, should a predetermined number of errored messages, such as three, occur, the communication session is terminated. In addition, the retransmission request message may contain information suggesting a frame length of subsequently transmitted signals. The suggested frame length may be based upon a frame length of the correct message that was lastly received.

CLAIMS:

1. A communication device that minimizes a retransmission of signals and messages when an errored message is received during a communication handshaking procedure performed in a negotiation operation to identify a commonly supported communication standard, comprising: a receiving section that receives signals from an initiating communication device, said receiving section detecting when an errored message is received during the communication handshaking procedure; and a retransmission request device that transmits, to the initiating communication device, a retransmission request message indicating that said errored message was received.
6. A method for minimizing a retransmission of signals and messages when an errored message is received during a handshaking procedure of a communication session that identifies a commonly supported communication standard, comprising: monitoring the handshaking procedure that identifies a commonly supported communication standard to determine whether a received signal contains an errored message; and transmitting a retransmission request message requesting retransmission of a portion of the handshaking procedure when the monitored handshake procedure is determined to contain the errored message.
18. A method for minimizing a retransmission of signals and messages when an errored message is received during a handshaking procedure of a communication session, comprising: monitoring received data related to a predetermined frame structure of a high speed handshaking procedure that identifies a commonly supported communication standard; and transmitting a retransmission request message when the monitored predetermined frame structure indicates that the received data of the high speed handshaking procedure includes an errored message.
26. A method for minimizing a retransmission of signals and messages when an errored message is received during an xDSL negotiation procedure to identify a commonly supported communication standard for establishing a communication session, comprising: monitoring received data related to a Frame Check Sequence during the xDSL negotiation procedure; transmitting a retransmission request message when the Frame Check Sequence indicates that the received data includes an errored message, the retransmission request message indicating which correct message was lastly received; and terminating the communication session if a predetermined number of errored messages occur.

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File: USPT

Feb 10, 2004

DOCUMENT-IDENTIFIER: US 6690479 B1

**** See image for Certificate of Correction ****

TITLE: Process and circuit for initializing a printer or copying machine

Brief Summary Text (17):

In a preferred exemplary embodiment, the printer or copier comprises a device controller that is connected to a control panel unit. During the course of the initialization procedure, the control data are transmitted from the device controller onto the control panel unit. The control panel unit then checked the control data for their plausibility, i.e. to see whether the control data lie in a respectively allowed data range. When an error is thereby found, then the control panel unit replaces the incorrect control data with corresponding, predetermined standard values. In addition, an error message can be output on an output means such as a monitor, an error log, an error log data file or the like.

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L16: Entry 5 of 18

File: USPT

Sep 23, 2003

DOCUMENT-IDENTIFIER: US 6625728 B1

TITLE: Method and apparatus for locating and displaying a defective component in a data processing system during a system startup using location and progress codes associated with the component

Detailed Description Text (11):

The manner of logging and processing a detected error may depend on the type of error and when the error occurs, e.g., whether the error occurs during system initialization procedures. If an error is detected during system initialization, all devices, components or services within data processing system 10 may not have been initialized. For example, if an error is detected during system initialization, system firmware 41 may present certain errors to a system operator by writing error codes or error message to a liquid crystal display (LCD) panel, a light emitted display (LED), or a system display monitor physically connected to data processing system 10 without being able to log error derived data to the system log file. In other cases, the action of logging the data may start problem determination procedures in the operating system automatically.

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L16: Entry 15 of 18

File: USPT

Jun 7, 1988

DOCUMENT-IDENTIFIER: US 4750165 A

TITLE: Method of duplex data transmission using a send-and-wait protocol

Detailed Description Text (23):

Another send-and-wait protocol derived from the above method of data transfer is known as the DMS-X protocol. This is a byte oriented, half-duplex protocol which uses full-duplex message channel. It is a state code driven protocol which allows the communicating transceivers to delay the message transfer if either transceiver is not ready. The state codes are single byte codes used by the transceivers to handshake during message transfers. The codes are MIS, SEND, MSG, PACK, NACK, and ESC. The code ESC Escape--is a special character used for both SOM (Start of Message) and EOM (End of Message). The ESC code is recognized as a SOM signal when it appears singly and follows a plurality of MIS signals, and is recognized as an EOM signal when more than one appear adjacent to one another. All state codes, except for ESC, are filtered--sent twice to avoid wasting message processing capacity on timeouts due to erroneous state transitions. In this protocol, it is not necessary to indicate the message length as part of the message itself since SOM and EOM flags are used. Also, the checksum information is not used and is replaced with 16-bit CRC (Cyclic Redundancy Code) transmitted in two bytes. This is a well-known technique to provide protection against message errors. The CRC is sent in the message as the two bytes preceding the EOM flag. The SOM and EOM flags are not included in the CRC calculation.

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L16: Entry 16 of 18

File: EPAB

Oct 1, 1997

DOCUMENT-IDENTIFIER: EP 798893 A1

TITLE: End-to-end session recovery

Abstract Text (1):

A session recovery mechanism that permits the recovery of a session with a minimal delay to a user and with minimal data loss. When the client/server communications protocol process, such as TCP/IP process, issues an error message to a server (170) and a client (142), the server (170) and the client (142) switch from a server data socket (190) and a client data socket (194), respectively, to a new server data socket and a new client data socket, respectively. This switchover is achieved by having the client (142) open a listening socket (198) during its initialization process. Using the client listening socket (198), the client (142) listens for a connection from the server (170) to switch to a new data socket, in case of, for

example, error messages from the TCP/IP process.

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L17: Entry 2 of 8

File: USPT

Feb 11, 2003

DOCUMENT-IDENTIFIER: US 6519530 B2

TITLE: Intelligent remote location system

Detailed Description Text (81):

For calls initiated by the service 19, the encryption/encoding layer will be the symmetric encryption algorithm agreed upon during initialization, and the service's error detecting algorithm. Calls initiated by the device 11 will begin with null-encryption and switch to the agreed-upon symmetric encryption algorithm as soon as the service correctly acknowledges receipt of a registered ESN. Device-initiated calls will use the service's error-detecting algorithm throughout. An error in recognition of the call-initiator (device or service) will require retransmission. After five unsuccessful attempts, the call will be terminated. Other errors will result in a single attempt to retransmit. If retransmission is unsuccessful, the particular request, data transfer, or instruction will be abandoned and the call will continue.

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